IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of	:	**Confirmation No. 4434**
Andreas ABEL et al.	:	Attorney Docket No. 2001_1861A
Serial No. 10/030,972	:	Group Art Unit 1641
Filed January 15, 2002	:	Examiner Melanie J. Yu

DEVICE AND METHOD FOR DETERMINING MULTIPLE ANALYTES

Mail Stop Appeal Brief - Patents

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Respectfully submitted,
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December 19, 2007

[Check No. 83812]

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APPEAL BRIEF

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The following is Appellants' Brief, submitted under the provisions of 37 C.F.R. § 41.37. This is an appeal from the rejections of the Examiner set forth in the final Office Action dated June 19, 2007. This brief is submitted in triplicate with the requisite fee of $510.00.

A Notice of Appeal was filed on October 19, 2007.

The Commissioner is authorized to charge any deficiency or to credit any overpayment associated with this communication to Deposit Account No. 23-0975.

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I. REAL PARTY IN INTEREST

The above-referenced application is assigned to Zeptosens AG of Witterswil, Switzerland (Reel/Frame 012757/0794), which was acquired by Bayer Technology Services GmbH of Leverkusen, Germany. Therefore, the real party of interest is Bayer Technology Services GmbH.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals and interferences.

III. STATUS OF CLAIMS

The status of the claims as indicated in the final Office Action dated June 19, 2007 is as follows:

Claims pending:	1-63 and 81-92
Claims rejected:	1-47 and 81-91
Claims withdrawn:	48-63 and 92
Claims appealed	1-47 and 81-91

III. STATUS OF AMENDMENTS

No amendments were filed subsequent to the final Office Action of June 19, 2007. The claims were last amended per the response filed March 19, 2007.

IV. SUMMARY OF CLAIMED SUBJECT MATTER

A concise explanation of the subject matter in independent claim 1 is presented below with reference to the written description and drawings of this application. It is noted that in the concise explanation that follows, the page and line numbers of the written description refer to the substitute specification filed on October 11, 2005.

The subject matter of independent claim 1 is directed to a device comprising: a sensor platform having a planar optical waveguide (see Fig. 1 (element (a)); page 14, lines 1-2; page 15, lines 13-25; page 30, lines 6-7); a sealing layer forming, either directly or with a sealing medium, a tight seal with said planar optical waveguide (see Fig. 1 (element (g)); page 14, lines 1-5; page 30, lines 7-10); and a plurality of recesses opening at least towards said sensor platform, which

form a corresponding plurality of sample compartments (see Fig. 1; page 14, lines 5-10; page 30, lines 10-12), said plurality of sample compartments being arranged with at least two sample compartments in a length direction and at least two sample compartments in a width direction (see Fig. 1; page 12, line 3; page 14, lines 5-8), wherein each of said sample compartments has different biological or biochemical recognition elements for specific recognition and binding of different analytes immobilized in five or more discrete measurement areas on said planar optical waveguide (see Fig. 1 (element (d)); page 14, lines 9-15; page 30, lines 13-16), said measurement areas being arranged with at least two measurement areas in a length direction and at least two measurement areas in a width direction (see Fig. 1; page 12, line 3; page 14, lines 5-10), said measurement areas are in optical interaction with excitation light emanating from said optical waveguide, as part of said sensor platform which forms a demarcation of said sample compartments (see Fig. 1; page 14, lines 12-15; page 30, lines 16-17; page 31, lines 1-3), and said sample compartments are operable to have sample or reagent solutions received therein cleared therefrom and to have further sample or reagent solutions supplied thereto (see Fig. 1; page 14, lines 15-19; page 30, lines 19-20).

V. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-34, 38-40, 42-47, 81-84 and 86-91 were rejected under 35 U.S.C. § 103(a) as obvious over Neuschäfer (WO 96/35940) in view of Coassin (US 6,660,233) in item 1 on pages 2-9 of the Office Action.

Claims 35-37 were rejected under 35 U.S.C. § 103(a) as obvious over Neuschäfer (WO 96/35940) in view of Coassin (US 6,660,233) and further in view of Hashimoto (US 6,480,639) in item 2 on page 9 of the Office Action.

Claims 41 and 85 were rejected under 35 U.S.C. § 103(a) as obvious over Neuschäfer (WO 96/35940) in view of Coassin (US 6,660,233) in item 3 on pages 9 and 10 of the Office Action.

VI. ARGUMENT

A. Rejection under 35 U.S.C. §103(a) over Neuschäfer in view of Coassin

Claims 1-34, 38-40, 42-47, 81-84 and 86-91 were rejected under 35 U.S.C. § 103(a) as obvious over Neuschäfer (WO 96/35940) in view of Coassin (US 6,660,233) in item 1 on pages 2-9 of the Office Action.

This rejection is respectfully traversed for the reasons set forth in the last response filed March 19, 2007 and for the following reasons.

Independent claim 1

As noted at page 14 of the March 19, 2007 response, the device of independent claim 1 requires a two-dimensional arrangement of items, which means that the arrangement of items include at least two items in a length direction and at least two items in a width direction, not that each of the items itself has a length and a width. Appellants respectfully submit that one of ordinary skill in the art would have understood that this is what is meant by "two-dimensional arrangement" based on the instant disclosure. In the March 19, 2007 response, Appellants argued that the cited prior fails to disclose or suggest this element of the claimed invention.

In reply thereto, the Office, in the final Action, replaced the Feldstei reference with the newly cited Coassin reference. Aside from this change the references remain the same.

Appellants respectfully submit that claim 1 is patentable over Neuschäfer in view of Coassin. The arguments with respect to Neuschäfer set forth in the March 19, 2007 response are reiterated herein and discussed below.

Claim 1 is patentable over Neuschäfer in view of Coassin, since claim 1 recites a device having, in part, a plurality of recesses opening at least towards a sensor platform, which forms a corresponding plurality of sample compartments, the plurality of sample compartments being arranged with at least two sample compartments in a length direction and at least two sample compartments in a width direction, wherein each of the sample compartments has different biological or biochemical recognition elements for specific recognition and binding of different analytes immobilized in five or more discrete measurement areas on a planar optical waveguide, the measurement areas being arranged with at least two measurement areas in a length direction and at least two measurement areas in a width direction. Neuschäfer and Coassin fail to disclose or suggest these features of claim 1.

Starting with the primary reference of Neuschäfer. As noted in the last response, this reference discloses a device having a laser diode 13, a coupling-in grating 3 located on a sensor platform 8, a coupling-out grating 3' also located on the sensor platform 8, and a detector 14. A first filter 9 is located between the laser diode 13 and the coupling-in grating 3 and a second filter 9 is located between the coupling-out grating 3' and the detector 14. The sensor platform 8 contains a waveguide 1 such that light enters the waveguide 1 from the coupling-in grating 3 and exits the waveguide 1 from the coupling-out grating 3'. A flow through cell 11 is attached to the bottom of the sensor platform 8 via a plurality of seals 10, thereby creating a sample space 12 between the sensor platform 8 and the flow through cell 11.

Neuschäfer also discloses a waveguiding arrangement having a number of detection regions 4 located on a substrate 5. Each of the detection regions 4 includes the coupling-in grating 3 and, optionally, the coupling-out grating 3' and a number of divisions 2 forming a plurality of strip-like waveguiding regions having recognition elements immobilized thereon. (See page 9, lines 13-27; page 14, lines 6-12; page 21, lines 18-27; page 29, lines 1-17; and Figures 1a, 2a, 3a, 4a, 5a and 6).

At the top of page 2 of the Action, the plurality of strip-like waveguiding regions, which have recognition elements immobilized thereon, defined by the divisions 2 are relied upon as allegedly corresponding to the claimed plurality of sample compartments in a 2-dimensional arrangement. At the top of page 2 of Action, it was indicated that at least two sample compartments are in a length direction of the array and at least two sample compartments are in a width direction of the array (central cut out portions form a flowthrough cell, which is the sample compartment, the sample compartments are formed in a 2-dimensional arrangement). The Office pointed to the page 14, lines 6-12, 7, Fig. 5a and 5b of Neuschäfer as allegedly providing support for such... Further, each of the recognition elements immobilized on the waveguiding regions is relied upon as corresponding to a measurement area.

As to the recognition elements (i.e., the measurement areas) of Neuschäfer, claim 1 recites that each of the sample compartments has five or more measurement areas arranged with at least two measurement areas in a length direction and at least two measurement areas in a width direction. However, contrary to the Office's position, Neuschäfer never discloses or suggests that each of the strip-like waveguiding regions has recognition elements arranged with

at least two measurement areas in a length direction and at least two measurement areas in a width direction.

Although, Neuschäfer discloses that there are a number of suitable choices for the recognition elements at page 21, lines 19-27, there is no disclosure or suggestion in Neuschäfer that each of the strip-like waveguiding regions has different biological or biochemical recognition elements immobilized in five or more discrete measurement areas of claim 1.

Therefore, the broad disclosure of the recognition elements in Neuschäfer does not correspond to the arrangement of the claimed measurement areas in a 2-dimensional arrangment. As a result, it is clear that Neuschäfer fails to disclose or suggest the present invention as recited in claim 1.

In addition, the Office does not appear to recognize that – besides the above-discussed 2-dimensionality of the array – a further difference between the claimed invention and the disclosure in Neuschäfer exists. In Neuschäfer, the different waveguide (detection) regions are optically "isolated" against each other by the features of section (a) of claim 1 of Neuschäfer. By contrast, in the present invention, there is no "optical isolation" of the detection regions. Optical isolation of the detection regions in the present is not required. The light from the waveguide is isotropically emitted.

Further, it is evident, that in order to make the sensor platform of Neuschäfer 2-dimensional, much more space would be required and, thus, such space is lost and cannot be used for analyte detection.

For these reasons, Appellants respectfully submit that Neuschäfer fails to disclose or suggest the invention in independent claim 1.

Turning now to the secondary reference of Coassin. Appellants respectfully disagree with the Office's interpretation of this reference.

At the top of page 4 of the Action, Coassin was relied upon as allegedly disclosing an array on a waveguide (col. 1, lines 60-65) having an array of measurement areas, wherein the array has a linear arrangement of immobilized reactants (col. 2, lines 44-48). Appellants respectfully disagree. Coassin does not disclose or suggest an array on a waveguide having an array of measurement areas, wherein the array has a linear arrangement of immobilized reactants. Nor does Coassin disclose or suggest one having at least two measurement areas in a

width direction and at least two measurement areas in a length direction in order to provide distinct regions of active sites for detection of target biomolecules.

In the "background art" section at column 1, lines 60-65, Coassin discusses an alternative assay for the detection of target biomolecules within a sample by applying a volume of the sample to a substrate having immobilized reactants which may interact with the target or targets to form detectable complexes. In this alternative, the readout of the signals from the detectable complexes is performed by a light collection device coupled to an optical waveguide. Reference is made to US Patent No. 4,857,273 and other prior art documents. However, Appellants respectfully submit that none of these documents describe the use of a 2-dimensional array in connection with optical waveguides.

At column 2, lines 44-48, Coassin describes that the substrate of the invention may be a planar strip with linearly-arranged reactants forming separable arrangement of reactants, forming spots or dots in a two-dimensional array. The solid substrate – also called the "bioarray" – is supported by a holder and carried by manipulators, such as a robotic arm. In operation, the manipulator moves the "bioarray" to contact the bioarray surface with a volume of a sample. Then, the manipulator moves the contacted bioarray to a detection station to detect the absence or presence of immobilized biomolecule complexes (col. 2, lines 27-32). The holder of the "bioarray".can be a pipette or pipette tip, within which the bioarray is affixed (see, for example, Fig. 12), or for instance, a truncated pipette tip having a bracket or a flat surface for supporting the "bioarray" (see, for example, Fig. 80.

In this arrangement the "2-dimensional bioarray" of Coassin is plunged into a hole of a 96 well plate (see Fig. 1 and Fig. 10). Appellants respectfully submit that it becomes immediately apparent that the physical form and the dimensions of the "2-dimensional bioarray" of Coassin is <u>different</u> from the above-noted embodiments of the present invention. Further, Appellants note that the disclosures in Coassin relied upon by the Office (at column 1, lines 60-65, and column 2, lines 44-48) are related to <u>two completely different inventions</u> that have – besides the fact that both relate to an assay for detection of target molecules – <u>nothing in common</u>.

Even if a skilled artisan were to combine the teachings of the two paragraphs of Coassin relied upon by the Office, it would <u>fail to suggest</u> the present invention, because no information about the technical realization is provided in reference. In particular, it is <u>unclear how a</u>

waveguide should be positioned on a pipette tip, within which the bioarray is affixed (or on the "bioarray" that is held by the bracket of the truncated pipette tip) in order to provide a workable invention and to arrive at the present invention. Neuschäfer fails to rectify this deficiency. In this sense, the cited prior art references lack predictability and a reasonable expectation of success of combining and/or modifying their teachings to arrive at the present invention. Thus, one of ordinary skill in the art, upon reading Coassin and Neuschäfer and in view of the knowledge in the art, would find no suggestion therein to combine and/or modify the two disclosures relied upon by the Office in Coassin to arrive at the claimed invention, especially given that they relate to two completely different inventions and the reference lacks information on positioning of the waveguide. Consequently, one of ordinary skill in the art, upon reading Coassin and Neuschäfer, would not be motivated to combine and/or modify the teachings of Coassin and Neuschäfer to arrive at the present invention.

In view of the foregoing, Appellants submit that the combination of Neuschäfer and Coassin does not teach, suggest or otherwise render obvious at least the above-noted features recited in claim 1. Accordingly, Appellants submit that claim 1 is patentable over the cited prior art references. Therefore, the above-noted final rejection of claims 1-34, 38-40, 42-47, 81-84 and 86-91 under 35 U.S.C. § 103(a) over Neuschäfer and Coassin is untenable and should be reversed.

Dependent claims 2-47 and 81-91

Claims 2-47 and 81-91 depend on claim 1 (either directly or indirectly) and are therefore considered patentable at least by virtue of their dependency.

B. Rejection under 35 U.S.C. §103(a) over Neuschäfer in view of Coassin and Hashimoto

Claims 35-37 were rejected under 35 U.S.C. § 103(a) as obvious over Neuschäfer (WO 96/35940) in view of Coassin (US 6,660,233) and further in view of Hashimoto (US 6,480,639) in item 2 on page 9 of the Office Action.

Claims 35-37 either directly or indirectly depend on claim 1. Accordingly, Appellants respectfully traverse this rejection for the reasons noted above with respect to Neuschäfer and Coassin and for the following reasons. The above arguments with respect to Neuschäfer and Coassin are reiterated herein.

Appellants respectfully submit that Hashimoto fails to cure the above discussed deficiencies of Neuschäfer and Coassin. As for Hashimoto, the Office relied upon it as disclosing an optically transparent resin 9 and a light absorbent 8. However, Hashimoto fails to disclose or suggest the above-discussed features of independent claim 1.

Therefore, Appellants submit that claims 35-37 are patentable at least by virtue of their dependency on claim 1.

C. Rejection under 35 U.S.C. §103(a) over Neuschäfer in view of Coassin

Claims 41 and 85 were rejected under 35 U.S.C. § 103(a) as obvious over Neuschäfer (WO 96/35940) in view of Coassin (US 6,660,233) in item 3 on pages 9 and 10 of the Office Action.

Claims 41 and 85 either directly or indirectly depend on claim 1. Accordingly, Appellants respectfully traverse this rejection for the reasons noted above with respect to Neuschäfer and Coassin. These arguments with respect to Neuschäfer and Coassin are reiterated herein.

Therefore, Appellants submit that claims 41 and 85 are patentable at least by virtue of their dependency on claim 1.

VII. CONCLUSION

For the reasons set forth above, it is respectfully submitted that the prior art references applied by the Examiner, either alone or in combination, do not disclose, suggest or otherwise render obvious all of the features of independent claim 1.

Accordingly, as the applied prior art does not teach suggest, or otherwise render obvious every limitation set forth in claim 1, Appellants submit that independent claim 1, and all claims that depend therefrom, should be considered allowable. See *Verdegaal Bros. v Union Oil Co. of California*, 814 F.2d, 638, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

In view of the foregoing, Appellants respectfully request that the Examiner's decision to finally reject claims 1-47 and 81-91 be reversed.

Attached herewith are a Claims Appendix, an Evidence Appendix, and a Related Proceedings Appendix.

This brief is submitted in triplicate with the requisite fee of $510.00.

Favorable action on the merits is solicited.

Respectfully submitted,

Andreas ABEL et al.

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December 19, 2007

CLAIMS APPENDIX – claims on appeal:

1. A device comprising:

a sensor platform having a planar optical waveguide;

a sealing layer forming, either directly or with a sealing medium, a tight seal with said planar optical waveguide; and

a plurality of recesses opening at least towards said sensor platform, which form a corresponding plurality of sample compartments, said plurality of sample compartments being arranged with at least two sample compartments in a length direction and at least two sample compartments in a width direction, wherein

each of said sample compartments has different biological or biochemical recognition elements for specific recognition and binding of different analytes immobilized in five or more discrete measurement areas on said planar optical waveguide, said measurement areas being arranged with at least two measurement areas in a length direction and at least two measurement areas in a width direction,

said measurement areas are in optical interaction with excitation light emanating from said optical waveguide, as part of said sensor platform which forms a demarcation of said sample compartments, and

said sample compartments are operable to have sample or reagent solutions received therein cleared therefrom and to have further sample or reagent solutions supplied thereto.

2. A device according to claim 1, wherein at least one of said measurement areas in each of said sample compartments is for referencing.

3. A device according to claim 2, wherein said referencing measurement areas reference same chemical or optical parameters in a number of said sample compartments distributed over said sensor platform, whereby a lateral distribution of the chemical or optical parameters over said sensor platform is determined.

4. A device according to claim 1, wherein said measurement areas are in optical interaction with an evanescent field of the excitation light guided in said planar optical waveguide.

5. A device according to claim 1, wherein said planar optical waveguide is a multi-mode or single-mode waveguide comprising an anorganic material or an organic material that is optically transparent at least at an excitation wavelength and a luminescence wavelength.

6. A device according to claim 1, wherein said planar optical waveguide is self-supporting.

7. A device according to claim 1, wherein said planer optical waveguide is an optical film waveguide having a first optically transparent layer and a second optically transparent layer, said first optically transparent layer being on said second optically transparent layer and said second optically transparent layer having a lower refractive index than said first optically transparent layer.

8. A device according to claim 7, wherein said second optically transparent layer comprises glass, quartz, or transparent thermoplastic plastics.

9. A device according to claim 7, wherein the refractive index of said first optically transparent layer is higher than 1.8.

10. A device according to claim 7, wherein said first optically transparent layer comprises TiO_2, ZnO, Nb_2O_5, Ta_2O_5, HfO_2, or ZrO_2.

11. A device according to claim 7, wherein a thickness of said first optically transparent layer is between 40 and 300 nm.

12. A device according to claim 7, wherein said optical film waveguide further has an additional optically transparent layer in contact with said first optically transparent layer and

having a lower refractive index than said first optically transparent layer, said additional optically transparent layer having a thickness of 5 nm - 10,000 nm and being located between said first and second optically transparent layers.

13. A device according to claim 12, wherein said additional optically transparent layer reduces surface roughness below said first optically transparent layer, reduces penetration of an evanescent field, of light guided in said first optically transparent layer, into one or more layers located below said first optically transparent layer, improves adhesion of said first optically transparent layer to the one or more layers located below said first optically transparent layer, reduces thermally induced stress within said sensor platform, or provides chemical isolation of said first optically transparent layer from layers located below, by sealing of micro pores in said first optically transparent layer against the layers located below.

14. A device according to claim 7, further comprising an adhesion-promoting layer deposited on said first optically transparent layer for immobilizing biological, biochemical or synthetic recognition elements.

15. A device according to claim 14, wherein said adhesion-promoting layer has a thickness of less than 200 nm.

16. A device according to claim 14, wherein said adhesion-promoting layer comprises chemical compounds of a group consisting of silanes, epoxides, and "self-organized functionalized monolayers".

17. A device according to claim 1, wherein said measurement areas are generated by deposition of biological, biochemical or synthetic recognition elements on said sensor platform.

18. A device according to claim 17, wherein said measurement areas are deposited by one or more methods of a group consisting of ink jet spotting, mechanical spotting by means of pin or pen, micro contact printing, fluidic contacting of said measurement areas with the biological,

biochemical or synthetic recognition elements upon their supply in parallel or crossed micro channels, upon application of pressure differences or of electric or electromagnetic potentials.

19. A device according to claim 17, wherein, as the biological, biochemical or synthetic recognition elements, components of a group consisting of nucleic acids, antibodies, aptamers, membrane-bound and isolated receptors, ligands of the membrane-bound and isolated receptors, antigens for antibodies, histidin-tag components, cavities generated by chemical synthesis, for hosting molecular imprints, are deposited.

20. A device according to claim 17, wherein whole cells or cell fragments are deposited as the biological, biochemical or synthetic recognition elements.

21. A device according to claim 17, wherein compounds, which are "chemically neutral" towards the analytes, are deposited between said measurement areas, in order to minimize nonspecific binding or adsorption.

22. A device according to claim 21, wherein the compounds, which are chemically neutral towards the analyte, are albumines, herring sperm, or polyethyleneglycols.

23. A device according to claim 7, wherein said first optically transparent layer has at least one grating structure formed therein for incoupling excitation light to said measurement areas.

24. A device according to claim 7, wherein said first optically transparent layer has at least one grating structure formed therein for outcoupling light guided in said first optically transparent layer.

25. A device according to claim 23, wherein said first optically transparent layer also has at least one grating structure formed therein for outcoupling light guided in said first optically transparent layer.

26. A device according to claim 25, wherein said incoupling and outcoupling grating structures are interchangeable with respect to incoupling and outcoupling.

27. A device according to claim 25, wherein said incoupling and outcoupling grating structures have a period of 200 nm - 1000 nm and a grating modulation depth of 3 nm - 100 nm.

28. A device according to claim 27, wherein a ratio of the grating modulation depth to a thickness of said first optically transparent layer is equal or smaller than 0.2.

29. A device according to claim 23, wherein said grating structure is also for outcoupling, said grating structure being (a) a relief grating with a rectangular, triangular or semi-circular profile or (b) a phase or volume grating with a periodic modulation of a refractive index in said first optically transparent layer.

30. A device according to claim 7, further comprising a thin metal layer deposited between said first optically transparent layer and the immobilized biological or biochemical recognition elements, wherein a thickness of said thin metal layer is such that a surface plasmon at at least one of an excitation wavelength and a luminescence wavelength is excitable.

31. A device according to claim 23, wherein said grating structure is also for outcoupling, said grating structure being a diffractive grating with a uniform period.

32. A device according to claim 23, wherein said grating structure is a multi-diffractive grating.

33. A device according to claim 25, wherein said incoupling and outcoupling grating structures are located outside a region of said sample compartments.

34. A device according to claim 25, wherein said incoupling and outcoupling grating structures extend over at least a portion of said sample compartments.

35. A device according to claim 23, wherein a portion of said sealing layer is optically transparent both for excitation radiation and excited luminescence radiation at least within a penetration depth of an evanescent field.

36. A device according to claim 35, wherein said sealing layer comprises a first layer that is in contact with a surface of said sensor platform, said first layer being transparent for the excitation radiation and the excited luminescence radiation, and a second layer that is located remote from said sensor platform, said second layer being absorbent in a spectral range of the excitation radiation and of the excited luminescence radiation.

37. A device according to claim 34, wherein said sealing layer is absorbent in a spectral range of excitation radiation and excited luminescence radiation.

38. A device according to claim 1, wherein said sealing layer is self-adhesive.

39. A device according to claim 1, wherein said sealing layer comprises a polysiloxane.

40. A device according to claim 1, wherein 5 - 1000 of said measurement areas are located in one of said sample compartments.

41. A device according to claim 1, wherein an individual one of said measurement areas in said sample compartments occupies an area of 0.001 - 6 mm^2, and wherein different measurement areas have similar or different sizes.

42. A device according to claim 1, wherein each of said sample compartments has a volume of 100 nl - 1 ml.

43. A device according to claim 1, wherein said sample compartments are closed at a side facing away from said sensor platform except for inlet and outlet openings for supply and removal, respectively, of samples, wherein the supply and removal of the samples is performed in a closed flow-through system, and wherein when liquid is supplied to said measurement areas

or segments with common inlet and outlet openings, said inlet and outlet openings are addressed row by row or column by column.

44. A device according to claim 1, wherein the supply of the samples is performed in parallel or crossed micro channels, affected by pressure differences or by electric or electromagnetic potentials.

45. A device according to claim 1, wherein said sample compartments have openings for locally addressed supply or removal of samples or other reagents at a side facing away from said sensor platform.

46. A device according to claim 1, wherein compartments are provided for reagents, which are wetted and brought into contact with said measurement areas during an assay.

47. A device according to claim 1, wherein said sensor platform has optically or mechanically recognizable marks provided thereon, the optically or mechanically recognizable marks at least one of facilitating adjustment of said sensor platform in an optical system and facilitating combination of said sensor platform with said sealing layer having said recesses for said sample compartments.

81. A device according to claim 7, wherein said measurement areas are generated by deposition of biological, biochemical or synthetic recognition elements on said sensor platform.

82. A device according to claim 7, wherein said sealing layer is self-adhesive.

83. A device according to claim 7, wherein said sealing layer comprises a polysiloxane.

84. A device according to claim 7, wherein 5 - 1000 of said measurement areas are located in one of said sample compartments.

85. A device according to claim 7, wherein an individual one of said measurement areas in said sample compartments occupies an area of 0.001 - 6 mm^2, and wherein different measurement areas have similar or different sizes.

86. A device according to claim 7, wherein each of said sample compartments has a volume of 100 nl - 1 ml.

87. A device according to claim 7, wherein said sample compartments are closed at a side facing away from said first optically transparent layer except for inlet and outlet openings for supply and removal, respectively, of samples, wherein the supply and removal of the samples is performed in a closed flow-through system, and wherein a liquid is supplied to said measurement areas or segments with common inlet and outlet openings, said inlet and outlet openings being addressed row by row or column by column.

88. A device according to claim 7, wherein the supply of the samples is performed in parallel or crossed micro channels, affected by pressure differences or by electric or electromagnetic potentials.

89. A device according to claim 7, wherein said sample compartments have openings for locally addressed supply or removal of samples or other reagents at a side facing away from said first optically transparent layer.

90. A device according to claim 7, wherein compartments are provided for reagents, which are wetted and brought into contact with said measurement areas during an assay.

91. A device according to claim 7, wherein said sensor platform has optically or mechanically recognizable marks provided thereon, the optically or mechanically recognizable marks at least one of facilitating adjustment of said sensor platform in an optical system and facilitating combination of said sensor platform with said sealing layer having said recesses for said sample compartments.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None